

The pH scale

The pH scale is an international standard that has been tested and agreed on. Having a standard measurement of acidity enables us to talk about acidity or alkalinity of substances in a consistent way.

The name pH refers to 'potential Hydrogen' or 'power of Hydrogen' – which means that it is a measure of the number of hydrogen ions.

The scale runs from very acidic at 0 to very alkaline at 14. Neutral water is at 7 – this is a measure of pure water (but most of our tap water has traces in it that shift the pH slightly, nearer to 6).

The pH (potential Hydrogen) scale

Concentration of hydrogen ions compared to distilled water	pH rating	Sample substances at this level
10 000 000	pH = 0	battery acid, hydrochloric acid
1 000 000	pH = 1	sulphuric acid
100 000	pH = 2	lemon juice, vinegar
10 000	pH = 3	orange juice, fizzy drinks
1000	pH = 4	tomato juice
100	pH = 5	bananas, healthy lake water, coffee
10	pH = 6	milk, urine, saliva
1	pH = 7	pure water
1/10	pH = 8	sea water, eggs
1/100	pH = 9	bicarbonate of soda
1/1000	pH = 10	milk of magnesia
1/ 10 000	pH = 11	ammonia
1/ 100 000	pH = 12	soapy water
1/ 1 000 000	pH = 13	bleach, oven cleaner
1/10 000 000	pH = 14	liquid drain cleaner